



NAVAL WEAPONS CENTER
CHINA LAKE, CALIFORNIA 93555

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From: Frank Cartwright
To: Chairman, Grill Flame Committee
Subj: Comments on RV and PK Investigations

1. This letter is by way of an interim report on my assessment of Grill Flame activities as observed to date. (The response to the Davis questions and critique of our committee reports will follow.) I am submitting this because of a perception that our committee's ultimate findings and recommendations should, perhaps, embrace more than an assessment of the specific Grill Flame tasks now on going.

2. My understanding of the current DoD interest in performing PK and RV experiments on a scientific basis (rather than on an engineering or applications basis) is that proof of existence of either phenomenon would compel major effort to exploit military applications of such phenomena. In particular, the RV phenomenon, if it exists, represents a catastrophic military deficiency if left unexploited. I believe the following observations should be kept in mind in this regard.

(a) The proof of existence of a newly observed physical effect is extremely difficult almost by the fundamental premises of the scientific method. Phenomena which require even just a modification or extension of presently known "laws" of physics have always required detailed, and repeated physical measurements. (Interaction with other bodies, electro-magnetic fields, etc., etc.)

Successful accomplishment of a definitive experiment which establishes the existence of psychic interaction with the material world in an experimental program of a few years is, I believe, extremely improbable. Performance of such a (repeatable) experiment would require, I believe, physical measurements, using physical measuring devices, in which the psychic phenomenon always produces the identical effect on the measuring devices. Otherwise, it cannot be said that the observed effect is uniquely caused by the psychic "interaction". I know of no major accepted modifications of physical "laws" which have been based on experiments which have not established that the purported cause of an effect is always present in the manifestation of the effect, and that the effect is never present without the purported cause. An unproved proposed natural mechanism whose effect

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can be otherwise explained by the operation of other already proved mechanisms will not, in general, be accepted as an explanation of nature. (This may sound like a tract from the Tobacco Institute, but read on!) In essence, I appeal to the maxim of Occam's Razor, (which demands the simplest possible explanation of natural events.) Coincidence or fraud, no matter how improbable, are more acceptable, (to Occam), as an explanation of an unusual event than an addition to the conventional set of natural laws. And most of the scientific community are Occams. (e.g.: Norbert Wiener, in his assessment of his friend Rhine's experiments). The impossibility of an unusual event without such a new natural law must be proven before a psychic/physics interaction will be accepted by "hard science." (You'll excuse the expression?)

Thus the demonstration of the unlikelihood of coincidence as an explanation of PK or RV experiences does not suffice to prove the existence of psychic-physical interaction. Someday, when the electro-chemical manifestations of the brain are more clearly understood, and linked in a cause-effect relationship to thoughts (such as images), a physical measurement (such as EEG wave forms) of a "viewer" can be uniquely linked to a remote "view". Until such is accomplished, "proof" of physical/psychic occurrences will not be accepted by the Occams. (I am an Occam.)

The conclusion of all this is that the expectation of an existence proof of psychic-physical interaction is a forlorn one, if near term results are anticipated from Grill Flame.

(b) In spite of the inevitable failure of the "it can't be chance—chance is too improbable" experiments to prove RV-PK phenomena, such experiments can force the observation that something may be missing in the present set of physical laws, and thus encourage development of physical means to measure the phenomena. (The Bohm/Capra School of thought would articulate this as Eastern science driving the attention of Western science to new arenas of investigation.) Thus properly executed PK-RV probability experiments, whose goal is solely to call the attention of neuro-chemical-physical science to an improbable set of coincidences would be scientifically justified. The crucial element is the intent of such experiments; i.e., not the proof of a psychic-physical link, but the stimulation of physical measurements experiments to explore such a link. (There are many experiments being performed to identify the carcinogens in tobacco smoke).

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(c) The failure to understand or even posit the existence of a mechanism (or "law") controlling certain natural occurrences has not, in the past, prevented profound social benefit in applying such phenomena. (The magnetic compass provided accurate navigation before, during, and after its physics was understood. Bread mold was administered before penicillin was isolated, identified and employed by the medical community). The criterion of proof of existence of a new and peculiar law of nature is not a determining factor in the decision to employ an observed effect. (Lots of scientific people stopped smoking in the fifties.) The sole criterion for applying a procedure for social benefit is: does it work? We need no understanding as to why or how it works—we need only to discern what procedures are to be invoked to make it work. We can "work in the dark"—we need only to know, "if we do A, B follows—if we don't do A, B won't follow". But we do need to ascertain the reliability of the formula. If the B result occurs only 50% of the time we need to know it. The suggestion is, then, that we're interested in pragmatic engineering, not scientific principles. Pragmatic engineering is of vast social use, but, perhaps, of minimal scientific use.

3. The observations made in (a), (b), and (c), above, have led me to recommend that the objective of this committee be concentrated solely on ascertaining the means to establish the reliability of RV in the absence of proof of its existence. This is no subtle conclusion. It does not require experiments to prove existence. (RV can be utilized without an Occam-satisfying proof). It does not require knowledge of the mechanism. (An unknown mechanism, subjected to consistent procedures will produce consistent results.) It does not inhibit scientific research. (It bypasses it.)

The conclusion does require a program of reliability testing (not proof testing). Just such a program seems to exist at INSCOM, but even there the use of double blind procedures, and other devices to insure scientific rigor does not, any longer, seem necessary. (The integrity of the personnel has been well enough established.)

I recognize that the search for viewing reliability is akin to proof of viewing. But the goal, being different, could well lead to an unbureaucratic of the INSCOM people, by dropping scientific rigor. I propose, in short, that anecdotal events be emphasized. Declaring the INSCOM apparatus as operational, albeit of low reliability at present, would I believe, cause the apparatus to be "usefully" employed and provide the operators the means to increase the reliability.

4. The PK experiments are not, in my view pseudo-science, but, rather irrelevant science. The use of the accoutrements of modern technology to repeat an experiment previously performed many times will not, even given a positive result, "establish" the truth of PK, much less RV.

Frank C.